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**From:** Jenifer Dugan, Associate Research Biologist, Marine Science Institute, University of California, Santa Barbara

**Re:** Broad Beach Restoration Project. The Trancas Property Owner's Association proposes to address the extensive erosion at Broad Beach in the city of Malibu, Los Angeles County, through beach and sand dune restoration. The proposed Project would include beach widening and replenishment using sand dredged and transported from an offshore source and/or transported from an onshore source, sand dune building and restoration, and burying of an existing temporary emergency revetment.

Thank you for the opportunity to comment on the proposed beach fill project at Broad Beach. I am a marine ecologist with strong research interests in sandy beach ecosystems and extensive research experience on beaches of the central and southern California coast.

First, I would like to know if the emergency actions and other actions already taken at Broad Beach will be part of the draft EIR for this project? The actions in question include bulldozing and extensive heavy equipment use, berm building, sand bagging, and placement of geotextile tubes and rock revetments. This is important to consider because both emergency and other unpermitted actions in recent years may have damaged the beach ecosystem at Broad Beach leading to measurable losses of biota and diversity, particularly in the upper beach zones. I strongly suggest that the draft EIR explicitly consider the ecological conditions of Broad Beach prior to these actions and specifically address the ecological losses and damage caused by them in this project. Prior to these actions, our surveys indicated that Broad Beach was one of the few remaining dune-backed beaches in LA County to harbor native coastal strand vegetation and a rich upper shore fauna.

Secondly, I suggest that the long-term ecological impacts of leaving the rock revetment and any other armoring in place, buried or not, need be explicitly addressed in this EIR.

Thirdly, it may be useful to assess alternatives in which restorative actions could replace species which were found at the site as recently as 2001.

Lastly, the severity of ecological impacts of beach filling to beach ecosystems is now beginning to be understood here and elsewhere in the world. These impacts need to be addressed explicitly in the draft EIR for the Broad Beach project. Even if the sand

source used is a good match for the existing sand, much of the 100% mortality of intertidal biota, dune plants and organisms and other damage occurs during the construction phases of a beach fill project. Recovery of beach biota, particularly upper shore and coastal strand biota can be very slow, easily requiring a year or more. Recovery of populations of long-lived intertidal species, such as Pismo clams, can take decades. Given the annual post project filling and contouring proposed for this project, these biota would never have an opportunity to recover. I would like to suggest that the EIR include and address project alternatives that could mimic natural longshore and cross shore sand delivery processes as closely as possible, reduce the project footprint by feeding the sand into the beach cell from upcoast and letting it be moved with the existing longshore current to deposit on downcoast beaches. This approach would mean a more gradual recovery of beach width and profile with sand that will distribute via natural coastal processes. Beach organisms can survive this type of sand delivery. Every homeowner in Broad Beach would not receive an "instant beach" of equal width and profile in their backyard. However, the beach they would receive would have far more ecological function and value and may last relatively longer than a bulldozer-contoured profile beach would. If the beach profiles are allowed to fill in naturally from an upcoast source, it could also result in lower "sand loss" to downcoast areas outside of Broad Beach. This approach might also make it possible to open the project window such that the project could occur over a longer period and at times of year when the surf is calmer.

Thank you again for considering my comments on the Broad Beach Draft EIR.

Sincerely,

Jenifer E. Dugan
Associate Research Biologist